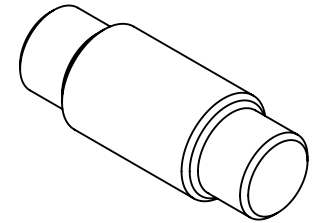
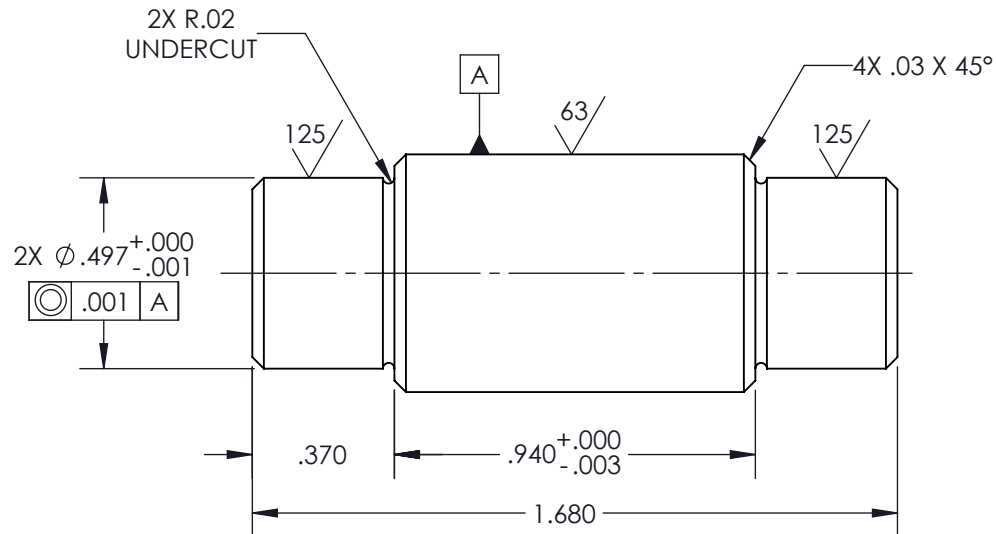


This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace Eugene, OR.

REVISIONS					
REV	ECR	DESCRIPTION	DATE	INITIAL	APPROVED
3		AS DRAWN BY CANAM.	9/13/2012	RJC	
3A	14-0127	CH'D TITLE BLOCK WAS RED BARN IS DART. ADDED BAG & LABEL NOTE. CH'D TOLERANCE ON NON-CRITICAL DIMENSIONS.	8/14/2014	DPD	RW

SEE ATTACHED DEVIATION



NOTES:

1. NICKEL PLATE .0004 - .0006, BAKE AFTER PLATING.
2. BAG & LABEL WITH BATCH NUMBER.

DART AEROSPACE	
TITLE KEEPER SHAFT	
DWG NO. C45-13-3	REV 3A
MAT'L 4140/4142	DRAWN BY: CANAM
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES	APPROVED <i>D Weil</i>
.XXX \pm .005 FRACTIONS \pm 1/8	HEAT TREAT RC 34-36
.XX \pm .01 ANGLES \pm .5°	FINISH SEE NOTE 1
.X \pm .1	SPEC
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R	USED ON MODEL
2. DIMENSIONAL LIMITS APPLY AFTER PLATING	
SCALE 2:1	DATE 5/14/1997
SHEET 1 OF 1	

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS
			C45-13-3	1	KEEPER SHAFT	4140/4142	$\phi 5/8$ X 1-7/8

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. <u>C45-13-3</u> NCR No. _____		DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Suspected Unapproved <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:12.5%;">Skid-tube <input type="checkbox"/></td> <td style="width:12.5%;">Cross tube <input type="checkbox"/></td> <td style="width:12.5%;">Water Jet <input type="checkbox"/></td> <td style="width:12.5%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Cross tube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																																															
Skid-tube <input type="checkbox"/>	Cross tube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>																																																																				
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>																																																																				
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>																																																																				
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>																																																																					
Date : _____		Step #: _____		QTY Effective : _____		MRB (QSI042) Approval Feb 27, 2019																																																																	
Description Work Order Deviation				Disposition																																																																			
C45-13-3 can be manufactured from 17-4PH-H1025 as an alternative material Heat treat and Nickel plating is not required if the part is manufactured from 17-4PH-H900				- This deviation is acceptable. - The fit, form and function of the part will be as originally intended.				Completed By																																																															
								Lead hand / Supervisor Approval Verification																																																															
								QC / QA Coordinator Approval																																																															
Root Cause <table style="width:100%; border: none;"> <tr> <td style="width:15%;">Environment <input type="checkbox"/></td> <td style="width:15%;">No Re-verification <input type="checkbox"/></td> <td style="width:15%;">Pressure/Forced <input type="checkbox"/></td> <td style="width:15%;">Temperature/Cure <input type="checkbox"/></td> <td style="width:15%;">Power Loss/Surge <input type="checkbox"/></td> <td style="width:15%;">Positioned Wrong <input type="checkbox"/></td> </tr> <tr> <td>Design <input type="checkbox"/></td> <td>Operator <input type="checkbox"/></td> <td>Bending <input type="checkbox"/></td> <td>Set-up <input type="checkbox"/></td> <td>Folio/Program <input type="checkbox"/></td> <td>Outside Dimensions <input type="checkbox"/></td> </tr> <tr> <td>Doc/Data <input type="checkbox"/></td> <td>Offset/Setup <input type="checkbox"/></td> <td>Centre Not Concentric <input type="checkbox"/></td> <td>BOM/Route <input type="checkbox"/></td> <td>Grain <input type="checkbox"/></td> <td>Over/Under tolerance <input type="checkbox"/></td> </tr> <tr> <td>Equip/Tooling <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td>Cracks <input type="checkbox"/></td> <td>Broken/Damage/Defect <input type="checkbox"/></td> <td>Weld <input type="checkbox"/></td> <td>Part Incorrect <input type="checkbox"/></td> </tr> <tr> <td>Handling/Pre <input type="checkbox"/></td> <td>Training <input type="checkbox"/></td> <td>Crimp/Kink/Ripple/Wave <input type="checkbox"/></td> <td>Inspection Incomplete/Unqualified <input type="checkbox"/></td> <td>Wrong Stock Pulled <input type="checkbox"/></td> <td>Part Lost/Missing <input type="checkbox"/></td> </tr> <tr> <td>Material <input checked="" type="checkbox"/></td> <td>Use for Testing <input type="checkbox"/></td> <td>Cuffs <input type="checkbox"/></td> <td>Contamination <input type="checkbox"/></td> <td>Out of Sequence <input type="checkbox"/></td> <td>Part Moved <input type="checkbox"/></td> </tr> <tr> <td>Internal Transport <input type="checkbox"/></td> <td>Poor Information <input type="checkbox"/></td> <td>Crushing <input type="checkbox"/></td> <td>Countersink <input type="checkbox"/></td> <td>Off-set <input type="checkbox"/></td> <td>Drawing <input type="checkbox"/></td> </tr> <tr> <td>Tribal Knowledge <input type="checkbox"/></td> <td>Rushing <input type="checkbox"/></td> <td>Heat Treat <input type="checkbox"/></td> <td>Cut Too Short <input type="checkbox"/></td> <td>Mislabeled <input type="checkbox"/></td> <td>Finish <input type="checkbox"/></td> </tr> <tr> <td>LOA <input type="checkbox"/></td> <td>Product Improvement <input type="checkbox"/></td> <td>Wave/Twist in Tube <input type="checkbox"/></td> <td>Instructions Incomplete/Unclear <input type="checkbox"/></td> <td>Fit/Function <input type="checkbox"/></td> <td>Misread <input type="checkbox"/></td> </tr> <tr> <td>Substation <input type="checkbox"/></td> <td>Process Improvement <input type="checkbox"/></td> <td>Marks/Chatter <input type="checkbox"/></td> <td>Drill Holes <input type="checkbox"/></td> <td>Misaligned/off center <input type="checkbox"/></td> <td>Turning Sequence <input type="checkbox"/></td> </tr> <tr> <td>Past Expiry Date <input type="checkbox"/></td> <td>Manufacturing Process <input type="checkbox"/></td> <td colspan="4" rowspan="2" style="text-align: center; vertical-align: top;"> OTHER : _____ </td> </tr> <tr> <td>Misidentified <input type="checkbox"/></td> <td>Past Due <input type="checkbox"/></td> </tr> </table>				Environment <input type="checkbox"/>	No Re-verification <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>	Design <input type="checkbox"/>	Operator <input type="checkbox"/>	Bending <input type="checkbox"/>	Set-up <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>	Doc/Data <input type="checkbox"/>	Offset/Setup <input type="checkbox"/>	Centre Not Concentric <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>	Equip/Tooling <input type="checkbox"/>	Supplier <input type="checkbox"/>	Cracks <input type="checkbox"/>	Broken/Damage/Defect <input type="checkbox"/>	Weld <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>	Handling/Pre <input type="checkbox"/>	Training <input type="checkbox"/>	Crimp/Kink/Ripple/Wave <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>	Material <input checked="" type="checkbox"/>	Use for Testing <input type="checkbox"/>	Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>	Part Moved <input type="checkbox"/>	Internal Transport <input type="checkbox"/>	Poor Information <input type="checkbox"/>	Crushing <input type="checkbox"/>	Countersink <input type="checkbox"/>	Off-set <input type="checkbox"/>	Drawing <input type="checkbox"/>	Tribal Knowledge <input type="checkbox"/>	Rushing <input type="checkbox"/>	Heat Treat <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Finish <input type="checkbox"/>	LOA <input type="checkbox"/>	Product Improvement <input type="checkbox"/>	Wave/Twist in Tube <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Fit/Function <input type="checkbox"/>	Misread <input type="checkbox"/>	Substation <input type="checkbox"/>	Process Improvement <input type="checkbox"/>	Marks/Chatter <input type="checkbox"/>	Drill Holes <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Turning Sequence <input type="checkbox"/>	Past Expiry Date <input type="checkbox"/>	Manufacturing Process <input type="checkbox"/>	OTHER : _____				Misidentified <input type="checkbox"/>	Past Due <input type="checkbox"/>
Environment <input type="checkbox"/>	No Re-verification <input type="checkbox"/>	Pressure/Forced <input type="checkbox"/>	Temperature/Cure <input type="checkbox"/>	Power Loss/Surge <input type="checkbox"/>	Positioned Wrong <input type="checkbox"/>																																																																		
Design <input type="checkbox"/>	Operator <input type="checkbox"/>	Bending <input type="checkbox"/>	Set-up <input type="checkbox"/>	Folio/Program <input type="checkbox"/>	Outside Dimensions <input type="checkbox"/>																																																																		
Doc/Data <input type="checkbox"/>	Offset/Setup <input type="checkbox"/>	Centre Not Concentric <input type="checkbox"/>	BOM/Route <input type="checkbox"/>	Grain <input type="checkbox"/>	Over/Under tolerance <input type="checkbox"/>																																																																		
Equip/Tooling <input type="checkbox"/>	Supplier <input type="checkbox"/>	Cracks <input type="checkbox"/>	Broken/Damage/Defect <input type="checkbox"/>	Weld <input type="checkbox"/>	Part Incorrect <input type="checkbox"/>																																																																		
Handling/Pre <input type="checkbox"/>	Training <input type="checkbox"/>	Crimp/Kink/Ripple/Wave <input type="checkbox"/>	Inspection Incomplete/Unqualified <input type="checkbox"/>	Wrong Stock Pulled <input type="checkbox"/>	Part Lost/Missing <input type="checkbox"/>																																																																		
Material <input checked="" type="checkbox"/>	Use for Testing <input type="checkbox"/>	Cuffs <input type="checkbox"/>	Contamination <input type="checkbox"/>	Out of Sequence <input type="checkbox"/>	Part Moved <input type="checkbox"/>																																																																		
Internal Transport <input type="checkbox"/>	Poor Information <input type="checkbox"/>	Crushing <input type="checkbox"/>	Countersink <input type="checkbox"/>	Off-set <input type="checkbox"/>	Drawing <input type="checkbox"/>																																																																		
Tribal Knowledge <input type="checkbox"/>	Rushing <input type="checkbox"/>	Heat Treat <input type="checkbox"/>	Cut Too Short <input type="checkbox"/>	Mislabeled <input type="checkbox"/>	Finish <input type="checkbox"/>																																																																		
LOA <input type="checkbox"/>	Product Improvement <input type="checkbox"/>	Wave/Twist in Tube <input type="checkbox"/>	Instructions Incomplete/Unclear <input type="checkbox"/>	Fit/Function <input type="checkbox"/>	Misread <input type="checkbox"/>																																																																		
Substation <input type="checkbox"/>	Process Improvement <input type="checkbox"/>	Marks/Chatter <input type="checkbox"/>	Drill Holes <input type="checkbox"/>	Misaligned/off center <input type="checkbox"/>	Turning Sequence <input type="checkbox"/>																																																																		
Past Expiry Date <input type="checkbox"/>	Manufacturing Process <input type="checkbox"/>	OTHER : _____																																																																					
Misidentified <input type="checkbox"/>	Past Due <input type="checkbox"/>																																																																						